REMARKS

Claims 9, 10 and 16 have been amended. Claims 1-8 have been canceled. New claims 17-22 have been added. Thus, claims 9-22 are now pending in the present application. Support for new claims 17-22 may be found in original claims 3-8. Thus, no new matter has been added. Reconsideration and withdrawal of the present rejections in view of the comments presented herein are respectfully requested.

Rejections under 35 U.S.C. §102(b)

De Meutter et al. (US 5,905,012)

Claims 1, 2 and 16 were rejected as allegedly being anticipated by De Meutter et al. (US 5,905,012). Claims 1 and 2 have been canceled, thus rendering the rejection moot with regard to these claims. The rejection will be addressed as it applies to claim 16.

In order for a claim to be anticipated by a reference, each element of the claim must be found within the reference. Claim 16 has been amended to recite that the method is carried out using a liquid toner digital press imaging system, and involves use of both a liquid toner and a substrate on which the printed image is formed, wherein the liquid toner includes both a particulate toner and a security ingredient that comprises a reactant, and the substrate includes a complementary reactant that reacts with the security ingredient to produce a recognizable security feature. The security feature comprises a security marking that is formed on the substrate and which may for example comprise a colored, fluorescent or chemically-detectable image having the same configuration as the toner image (as recited in currently pending Claim 10).

In the method of claim 16, the imaging composition includes a fine particulate toner that forms a toner image and, in addition, a security ingredient comprising a reactant that is reactable with a complementary reactant carried by the substrate to produce a security feature that is detectably retained on the substrate even if the toner image is removed.

Thus, the presently claimed composition recites two imaging features which produce two separate images, namely a toner image and a security feature that is detectably retained on the substrate even if the toner image is removed. Although these two images are produced simultaneously by applying the imaging composition to the substrate, they are entirely separate from each other and exist on the substrate in different forms. The toner image sits on the surface of the substrate and, although it is fused to the surface, is sometimes removable, for example by

scraping with a scalpel. Thus, the toner image is vulnerable to fraudulent removal or alteration. In contrast, the security feature is formed within the body of the substrate and is detectably retained even if the toner image is removed, thus providing protection against fraudulent alteration of documents.

De Meutter et al. discloses a toner comprising toner particles that are cured by radiation in order to increase the resistance of the toner image to external physical influences (see column 2, lines 8-10). The radiation curable particles are deposited by printing on a substrate, and then bonded to the substrate by external means through radiation curing. Optionally, thermal cross-linking and chemical bonding may also be used (see column 2, lines 23-26 and column 6, lines 3-6).. In De Meutter et al., although the radiation curable particles may optionally include a reactive composition that reacts with a complementary reactant carried by the substrate, the reaction only serves to bond the particles more tightly to the substrate. The reactant and the complementary reactant do not produce a security feature that is retained on the substrate if the toner image is removed as recited in present claim 16. Therefore, De Meutter et al. does not disclose all the features of claim 16.

In addition, claim 16 is not obvious over this reference. In De Meutter et al., although the toner includes a reactant, external curing means is required to cure the toner particles (column 7, lines 35-56: particularly line 42 "iii) radiation curing said fused toner particles"). Thus, the toner of De Meutter et al. is unsuitable for use in the method of claim 16, since in a liquid toner digital printing press radiation is not used to cure the toner image. Therefore, the imaging composition of De Meutter et al. would not be suitable for use in the present invention.

Gundjian et al. (US 5,516,362)

Claims 1-8 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Gundjian et al. (US 5,516,362). Claims 1-8 have been canceled, thus rendering this rejection moot. Applicants note that Gundjian et al. discloses a first composition and a second composition that reacts with the first composition in order to obtain a fluorescent effect. The second composition is either added with the first composition to a "printing medium" that is a toner or an ink (see column 2, line 63 – column 3, line 8), or it is applied as a security marking obtained by printing a mixture of the first composition and the printing medium (see column 2, lines 17-28). In the present application, although there are two components that react together,

the second reactant is included in the substrate (paragraph [0008]). Gundjian neither teaches nor suggests providing a substrate comprising a reactant.

In view of the comments presented above, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. §102(b).

Rejection under 35 U.S.C. 103(a)

Claims 1-7 and 9-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Miller et al. (US 5,427,886) in view of Hsu (US 6,051,305). Claims 1-7 have been canceled, thus rendering the rejection moot with regard to these claims. The rejection will be addressed as it applies to claims 9-15.

Claim 9 has been amended to recite that the liquid toner digital press imaging system includes both a liquid toner and a printable substrate, wherein the liquid toner includes both a fine particulate toner and a security ingredient that comprises a reactant, and the substrate includes a complementary reactant that reacts with the security ingredient to produce a recognizable security feature that is detectably retained on the substrate even if the toner image is removed.

With regard to previous claim 9, the Examiner contended that:

> *It would have been obvious to tone (sic) of ordinary skill in the art at the time of the invention to use any known imaging composition in the press of Hsu, including that of Miller, and one would have a reasonable expectation of success in doing so."* (Office Action at paragraph 5).

Miller et al. discloses an imaging process using micro-capsules that are adhered to a substrate and then ruptured by the local application of heat to generate an image. Thus, a single image is formed on the substrate. More specifically, Miller et al. et al. discloses a substrate comprising microcapsules that are ruptured when exposed to a "thermal energy input comprising a ΔT of at least 115°C per millisecond" (see column 2, lines 5-6). The thermal energy input is an element that is necessary in the invention of Miller et al. (see claim 1 and column 2, lines 22-24; 35-37; 50-52; and 62-64) but is not used in the presently claimed digital press imaging system.

As noted by the Examiner, the capsule core material of Miller can include similar chemical compounds to the imaging composition of the present application (Miller et al. column 6, lines 23-25 and column 6, line 45-67). However, there are significant differences between the two documents:

- Miller et al. applies the reactant to the substrate by using microcapsules (see column 1, lines 10-12) whereas in the present invention the complementary reactant is simply carried by the printable substrate (see claim 1 and paragraphs [0024], [0025] and [0027]).
- Miller et al. discloses microcapsules that have to be ruptured by exposure to thermal energy in order to produce an image, whereas in the substrate of the present invention the simple application of the toner (comprising the "reactant") is sufficient to develop the security feature,
- Miller et al. requires exposure to an external "point source energy input or pulse" to cause the rupture of the microcapsules (see column 2, lines 22-24;35-37;50-52;62-64) whereas the reaction described in the present application involves a reactant included in the toner composition and a complementary reactant carried by the substrate, no thermal action being needed.

As a consequence, Miller et al. does not teach a reactant mixed with the toner composition and a complementary reactant carried by a substrate as presently claimed. Furthermore, Miller et al. does not teach an imaging composition that includes two separate imaging components, and there is no suggestion in Miller of the formation of a toner image and a separate security feature that is detectably retained on the substrate in the event of removal of the toner image as presently claimed.

Hsu relates to a substrate composition for use in a digital printing press using a liquid toner composition. However, Hsu only discloses the generation of a single toner image. There is no disclosure or suggestion in Hsu of the production of a toner image and a separate security feature that is detectably retained on the substrate in the event of removal of the toner image as presently claimed. In addition Hsu teaches a different imaging composition produced from a single imaging component. Thus, Hsu does not remedy the deficiency in the teachings of Miller et al.

The Examiner argues that it would be obvious to use the imaging composition of Miller et al. in the printing process of Hsu. However, the combination of Miller with Hsu would not create the presently claimed invention as there is no suggestion in either Miller or Hsu of generating both a toner image and a separate security feature that is detectably retained on the substrate in the event of fraudulent alteration or removal of the toner image.

Moreover, to combine the references in the manner suggested by the Examiner would render the Hsu process unsatisfactory for its intended process, as specifically prohibited by M.P.E.P. 2143.01(V). The imaging composition of Miller is entirely unsuitable for use in a liquid toner digital press. Such a press requires a special liquid toner, comprising a fine particulate toner in a liquid vehicle, plus a binder. Miller does not provide a fine particulate toner. Instead, the substrate contains micro-capsules, which would not generate an image if used in a liquid toner digital press, since such a press does not apply heat locally to the substrate. Instead, a latent image is generated by electro-photography, which is then developed by the application of the liquid toner. The developed image is then transferred and fused to the substrate. At no point in the process is heat applied locally to specific areas of the substrate. Accordingly, incorporating the imaging composition of Miller into the liquid toner digital press of Hsu to generate an image would render the Hsu process unworkable. Accordingly, it is not permissible to combine the Miller and Hsu references to create a *prima facie* showing of obviousness with respect to the presently pending claims.

In view of the comments presented above, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a).

CONCLUSION

Applicants submit that all claims are in condition for allowance. Should there be any questions concerning this application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 3/9/09

By: _____
Neil S. Bartfeld, Ph.D.
Registration No. 39,901
Agent of Record
Customer No. 20,995
(619) 235-8550

6746984
030409